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White (Gas. 61)

A CONTRIBUTION

TO THE STUDY OF

THE ÆTIOLOGY OF SKIN DISEASES.

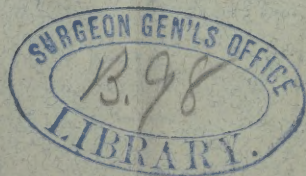
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BY

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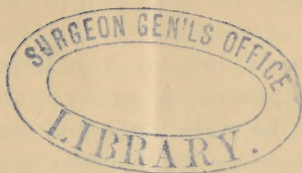
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A CONTRIBUTION
TO
THE STUDY OF THE ÆTIOLOGY OF SKIN DISEASES.¹

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It may seem needless to offer another contribution to this much-discussed question, but it is so enveloped in superstition, in popular errors descended from past professional beliefs, and in the crude theories of physicians, even, of the present day that it must continue to invite the active consideration of dermatologists. Unfortunately the opinions expressed by our own class in their writings and teachings upon this subject show a wider difference to-day than upon any other point in dermatology. Every national school has its peculiar belief, every master his individual doctrine, every author his own views, which are promulgated with as much positiveness as if such discrepancies of opinion were unheard of. If one could approach the study of dermatology for the first time after mature acquaintance with the literature and science of all other departments of medicine, he would experience unbounded surprise at a peculiarity which surrounds this question of ætiology both in its history and present aspect, that is, the tendency to refer the occurrence of skin diseases to disorders of all other parts of the economy. It is as if it had been the design of all specially concerned to hold and represent the skin as guiltless of self-disturbance, functional or structural, as the battle-ground on which foreign systems and remote organs elect to work off their ill humors, or as a passive mirror to reflect all the morbid changes going on beneath its surface. No such exemption from independent capability of disease, no such attributes of purely vicarious disturbance, are to be found in doctrines held concerning any other department of regional or general medicine. The reasons for this unique

¹ This paper is presented as an elaboration of the opinion briefly expressed in the writer's address before the first meeting of the association: "We recognize the fact that the skin is of itself a great series of complex organs, with just the same inherent tendencies to disease and just the same right to its independent affections as the tissues of any other organ. By this we do not of course intend to deny that it is a part of and closely connected with the general condition of the body in disease, only no more so necessarily than any other of its separate parts."

peculiarity in dermatology are to be sought in the superstitions which have from remote time surrounded this the oldest field of medical observation, and which have clung to it in large measure even to our day. The popular and professional names in use in our own and other languages to designate the visible structural changes in the cutaneous tissues in a state of disease are the simple expressions of these primitive beliefs. The peccant humors of a past orthodox pathology still flow unchanged to the popular mind in their well-worn former channels, and announce themselves at will upon the outer surface of the body in tangible forms. The bad foreign elements within us, in our fluids, in our organs, of introduced and inherited origin, seethe up at times, and bursting through the tegumentary crust which has concealed them appear as eruptions upon the skin, marked by the appropriate accompaniments of flaming heat and fluid corruption. These terms, humors, eruptions, breaking-out, efflorescence, which had their unequivocal origin in the medical profession, and yet retain a quasi-scientific position in our nomenclature, have still a positive and literal meaning with the vast majority of mankind, even among the most intelligent classes and races; and I am sorry to add that I fear that physicians are still in some measure responsible for this state of popular belief, and even now sympathize with it. Not a year goes by that the specialist is not told many times by patients, otherwise well educated, that their family physician has advised them to do nothing for this or that skin disease, lest interference with its course should be injurious to them. The innumerable times that we must remove the spontaneous fears of all classes of society that we may "drive the disease in" by our remedies, that there is danger of its "striking in," I need not allude to; they are one of the great obstacles to successful practice in dermatology, and peculiar to it. These popular prejudices may be regarded, then, as the direct offspring of past and present views among physicians concerning the ætiology of skin diseases. They will prevail until the profession discards wholly its inherited theories regarding the causation of cutaneous disease, and considers the question by the same methods that are now applied in the study of this and similar subjects in all other branches of medicine.

In the *first* place I proclaim the inherent independence and individuality of diseases of the skin in as full measure as pertains to those of all other parts of the body. *Secondly*, I maintain that the pathological processes which constitute cutaneous disease are identical in nature with those which are observed in the tissues of all other parts of the body in similar morbid conditions. *Thirdly*, the same methods of observation and reasoning which are employed in the study of the natural history and therapeutics of disease of all other parts of the human economy are equally applicable in dermatology. These would seem at first hearing self-evident propositions, but nothing is farther from reality than their

common acceptance as such by physicians. Let us consider briefly their professional standing:—

First, the autonomy of the skin, in as strict a sense as this term may be applied to any organs or systems of the body. Who is prepared to deny it this right *a priori*? Perhaps no one absolutely and in a general and theoretical sort of way. Yet it cannot be denied that a large number of physicians, and dermatologists even, refuse to recognize such independence in their writings and practice. Admitting, of course, the existence and individuality of certain affections of the skin caused by extraneous agencies, they dispute the independence of identical structural changes in it which occur without tangible cause, and hence refer most of its ordinary diseases to indefinite and remote agencies. Without mentioning again the popular beliefs just spoken of, which are also largely held by the medical profession, it will suffice to refer to the theories entertained on this subject by teachers in dermatology. I say theories purposely, because the doctrines maintained by them are founded almost wholly on pure assumption or inference; they do not even attempt a positive argument in support of their position in most cases. They agree in denying the inherent right of the skin to independent diseased action, and in failing to recognize that the burden of proof rests upon them to show why this is so; but beyond this common ground of negation there is no unanimity or consistency among them. We find the most striking diversity in the nature of the theories put forward in explanation of skin diseases, according to individual, sectional, and national characteristics, but no cumulative weight from common adoption, because none are based on scientific observation or experiment. Each writer seems to rest satisfied that he has established the truth of his denial of the local or unconstitutional origin of this or that affection by assigning its cause to some remote internal organ, which has responsibility enough in bearing its own burdens, or to disturbances of this or that function, or chemical changes in circulating fluids, the mere existence of which of themselves may not even be well established, or to some still more chimerical and intangible vice of the economy. Ordinarily the inventors or supporters of these theories are content with a simple assertion, as just stated, of their soundness, and only exceptionally make an attempt to back them by a presentation of evidence which can be properly tested by recognized methods of analysis.

Of the former class the ætiological doctrines of the French school of dermatology offer the most striking illustration. It may be, perhaps, unfair for any one not a Frenchman to venture to discuss the merits of the dartrous diathesis, for instance, for no one else has ever seen evidence of its existence; yet here are men who for half a century have occupied the most prominent positions as leaders in one of the greatest schools of dermatology, believing not only in the corporeal reality of such a demon as *la dartre*, but that it is the cause of most of the skin

disease which affects mankind. Yet ask them to define its nature, and they give you merely a description of the symptoms common to the affections which they say it causes. It is in fact very like the evil spirits which the medicine-men of barbarous races exorcise, and its continued hold upon the mind of scientific men of that civilized people can be explained only on the supposition of a transmitted and irresistible mental quality or strain, as national doctrines in theology are perpetuated. Another illustration of this class may be found in the disposition to refer the causation of skin diseases universally prevalent to the action of certain diseased conditions of the economy, or of extraneous influences which are necessarily sectional or restricted in their occurrence. If we cross from France into England, where gout is very prevalent, we shall find that this affection is regarded by dermatologists as the most important factor in the causation of many skin diseases, and that in their writings they in no way restrict its action in this respect to their occurrence at home, but assign it a universal influence. Yet gout is a very rare condition in some other parts of the world, where these cutaneous diseases prevail as frequently and manifest themselves of the same type as in England. A similar example presents itself here at home in our own transactions: one of our number has announced the dogma that all skin diseases in all regions geographical are the result of two causes only, — the chronic of scrofula, the acute of malaria. With regard to the first of these nothing will be said in this connection, but as to the second it is known that malaria, as generally understood, is confined to sharply defined geographical districts. It is as well known that the cutaneous affections which, it is claimed, are due to its influence prevail most extensively in regions where malaria does not practically exist. How, then, shall we explain the promulgation of opinions in ætiology which seem to bear on their face such apparently self-evident confutation? How else than on the supposition that, overbalanced by observing the almost general occurrence of these endemic affections at home, they should misjudge their frequent manifestations in connection with the more common skin diseases, and, magnifying mere coincidence into essential cause, proclaim their inferences from restricted observation as facts of world-wide application.

Of the second class, those who attempt to present evidence of the soundness of their theories, it is a fair representation of its character in nearly every instance to say that the proofs offered rest here, too, almost wholly upon inference or coincidence. Take, for instance, those who would support on scientific grounds the old and ever popular theory that skin diseases are caused by disordered states of the blood. Mere assertion on this point is of course worth no more in this connection from the physician than from the people. We require proof, first, that the blood is disordered; then, that such morbid conditions of this fluid are constant in these affections, and that they never occur where this

condition is not coexistent. With regard to the first, evidence would be admissible bearing upon its physical, chemical, or morphological constitution; the second demand could be conclusively answered only by the application of these tests to a very great number of cases. I am not aware that any of the dermatologists who actively support this hypothesis have any such data to present. Direct analyses of the blood have been made in connection with certain rare and peculiar forms of skin diseases, which from certain characteristics have been thought to be dependent upon disordered states of the circulating fluid; but in all cases the results obtained were unsatisfactory and negative. They offer no such direct methods of research, but in place of them resort to the examination of other fluids or secretions, and offer any abnormal condition of the latter they may find as conclusive not only of the disordered state of the blood, but as establishing the immediate relation of cause and effect between the state of blood and skin. The urine has naturally been selected as the most ready means of demonstrating such relationship, and I may be permitted to repeat here what I have elsewhere written: that there can be no question as to the intimate physiological relations between the kidneys and the skin in health, or of the occurrence of infrequent changes in the tissues of the latter when its circulation is surcharged with products which the kidneys have failed to eliminate, or of coincident disturbances in both in some constitutional affections. That the skin may thus occasionally be studied as an aid to diagnosis in renal disease, and in certain changes in the economy which announce themselves by synchronous modifications in the composition of the blood and urine, is true; but this does not warrant the inference that all variations in the urine which are found associated with skin diseases stand in any intimate relationship with them, or that they are both the common expression of some causative blood disorder. In fact, the changes in the urine of patients with skin diseases which have been observed are of a trivial character in the main, and such as occur in the most various and unimportant conditions of the economy, and can in no way be regarded as characteristic of the cutaneous affections in which they have been recorded. The results obtained from an extensive analysis of urine from the skin ward of a great general hospital would differ little, if at all, I doubt not, from those which any general ward would furnish, or such as would be obtained by no means infrequently in the examination of the urine from the same number of apparently healthy people. This is my own experience from the study of the urine in health and in disease. It is well to call to our aid so exact a science as chemistry in this study of ætiology, but all chances of error must be excluded in its application, and its teachings not be misinterpreted, if conclusions are to be drawn from it affecting the question of the relations of skin diseases to the blood or general economy.

Concerning the hold which several of these theories have upon the

convictions of some dermatologists we may quote the recent words of Huxley: "As none of these hypotheses is capable of even an approximation to demonstration, it is almost needless to remark that they have been severally held with tenacity and advocated with passion."

Second. The pathological processes which are found in the structural lesions and functional disturbances of the skin are in no way peculiar to the cutaneous tissues. I think that all are willing to accept this proposition who have made themselves familiar with the results of recent investigations into the pathological anatomy of the skin, or who have made independent studies in this direction. This subject has been so completely neglected by the profession generally until within late years that there has been no opportunity for the establishment of prejudice or wrong opinion on their part, at least, regarding it; and although hasty conclusions by observers in this field have not been wanting, accumulated results only add to the certainty of the unity of morbid processes in all parts of the human organism. It may be most positively stated that those who would establish an exceptional system of ætiology for cutaneous disease out of analogy with that which applies to all other parts of our frame will find no heterogeneous basis for its support in the teachings of pathology.

Third. The same methods of observation and induction should be employed in the study of this question in dermatology as are deemed legitimate and essential in similar investigations in general medicine. What results, then, do such methods of research yield when applied to this inquiry: In what relation does the skin stand to the other organs of the economy that its structural changes and functional disturbances are in any way dependent upon them? Let us consider briefly what we really know concerning any such connection in respect to the most important of these organs.

Brain and Nervous System. Of late years it has become the fashion among writers on dermatology to refer many affections of the skin, the causes of which are not satisfactorily understood, to disturbances of the nervous system. I say fashion purposely, because such reference is of quite recent origin, and because positive data for such conclusions have not multiplied within the same period, and are in fact most scanty and incomplete. That we have been able to trace the terminal cutaneous nerves a little farther towards the periphery, so as to recognize their distribution among the cells of the rete; that certain moderate disturbances of sensibility accompany the dermal tissue changes in a few diseases of the skin; that some forms of new growth and hypertrophy of the cutaneous tissues develop along certain nerve tracts; that the irritation of the peripheral nerves of one portion of the external surface may excite an irritation or an eruption upon distant parts of the integument by reflex action, as we say; that injuries to the trunk of a nerve may give rise to a variety of efflorescences upon that portion of the skin

supplied by it; and that disease in the ganglion or neurilemma may be followed by a definite sequence of inflammatory phenomena in the structure of the overlying skin, we have learned. But this is very little upon which to found a division in classification so comprehensive as some would make the neuroses in their systems of nosology, or to warrant so frequent an appeal to the nervous system in discussing the ætiology of skin diseases. The terms trophoneurosis, faulty innervation, reflex irritation, etc., are used coupled with many affections with the most slanderous looseness, where not the slightest positive proof of such connection is offered, or scientific grounds for such inference exist. What does "faulty innervation," for instance, mean without some discoverable tissue change in the nerve structures? What satisfaction can such an expression afford to the truth-seeker in ætiology when applied to the common diseases of the skin? We know that along the nerve fibres come those messages which regulate the circulation, control the vital processes of every part of the skin; but in the same way are governed the tissues of every other part of our frame, and unless we are prepared also to attribute all corporeal pathological processes to faulty innervation with as little reason as in dermatology, let us stop our meaningless talk about it here, too. We do not visit hospitals for diseased nervous systems to study skin diseases, nor do insane asylums present any characteristic cutaneous affections where the general functions of the inmates are properly cared for. That condition of physical misery with its cutaneous manifestations called pellagra, so common in the immense pauper mad-houses of Europe, never occurs in our asylums, and can therefore have no real connection with lesions of the central nervous system. If we cannot discuss ætiology without guessing, let us do this at least with some show of reason. Neuro-pathology is still a suckling itself, and affords little support to dermatology in this regard.

Lungs. Although the lungs, like the kidneys, have one function in common with the skin, that of the removal of water from the economy, yet on this ground of connection or otherwise but a small part has been allotted them in the causation of the diseases of the latter, either directly or indirectly. Even in that most universal and destructive of all diseases, consumption, the skin undergoes but little change throughout its most protracted course, and specific disorders in connection with it do not occur. Two affections, however, it has been frequently asserted, are somewhat intimately associated with it, or the general condition to which it gives rise, namely, lichen scrofulosorum and tinea versicolor. The former, by no means of uncommon occurrence in Germany among the miserable classes so frequently subject to so-called scrofula and consumption, is rarely seen with us, although the latter is so generally prevalent in all classes. According to the tabulated statistics of thirty-two thousand cases of skin disease recorded by American dermatologists, it has been observed but seven times in this large number. Is it

anything more than a condition of life-long neglect of the skin, becoming more prominent when the cutaneous tissues are devitalized by the marasmus incident to the affections with which it has been associated? *Tinea versicolor*, too, is believed by some dermatologists to have more than a casual relation to consumption, and by others at least to flourish best upon those whose systems are reduced by such wasting disease. With these opinions I cannot agree in any measure. I do not believe that any of the vegetable parasites of the skin require a special character of cutaneous soil, such as is imparted to it by disease of any kind, local or general. They flourish, according to my observation, upon all alike, so far at least as the health of the individual is concerned, and any theory which presupposes certain conditions of the skin or economy as essential to their development must be classed with that old belief in the itch dyscrasy. I once had the opportunity of studying the spread of *tinea trichophytina* in a large orphan asylum, whose inmates had for years been under the care of a dermatologist who had accepted as unquestionable the dogma of Mr. Wilson, that it was not of parasitic nature. The disease had had, therefore, no anti-parasitic treatment, and had attached itself to some forty children. It showed, however, no especial affinity for the weak ones among them in its early stages, nor failed in the most robust to develop into the deeper-seated and later forms upon the hairy parts; and its action under treatment upon the scalp was alike obstinate in both classes. Imported into family life by the adoption of these orphans, it never failed, where traced, to transplant itself upon the most healthy members of the household. The same readiness to universal transplantation is seen in the history of its introduction into a large family through the domestic animals. In the two cases reported by me in the *JOURNAL* February 14, 1878, every member of the family who handled the kittens became at once affected by ringworm. Examples of this impartial selection might be indefinitely multiplied. So, too, with *tinea versicolor*; although by no means as common, because growing under cover, or as easily communicated, as *tinea trichophytina*, yet it attaches itself and grows with the greatest luxuriance and for years upon the most robust and cleanly adults. It does not, however, spare the sickly, and that it is so frequently found upon the consumptive is simply because its discovery is insured by the exposure of the chest under examination. Such incidental connection shows only that the disease is much more common than is evident from the confessions or complaints of those affected by it.

The connection of asthma with eczema is often referred to in corroboration by those who possess a prominent belief in the constitutional nature of skin diseases, as if both affections were the expression of some common general vice of the economy. But this connection is rarely exhibited, like that with rheumatism, and is at most an alternation

such as is often observed between other diseases which are not claimed to have any mutual relationship. .

Heart. To this organ and its disorders no one has allotted any important share, to my knowledge, in the causation of skin diseases, chief engine as it is for the propulsion of a fluid impregnated, in popular and professional belief, with such intense capabilities in this direction.

Stomach. Not so innocent in this respect, however, are the organs of digestion regarded. Admitting the prompt and active impression upon the skin of certain substances called irritants when introduced into the intestinal canal of exceptional individuals, I am not prepared to accept the agency so commonly assigned, even by dermatologists, to these organs in the production of other cutaneous diseases. Arguing from these forms of erythema and urticaria resulting from gastric irritation, so called, many are disposed to assign to various articles of food an active part in the causation of some of the most common affections, even when no immediate effects are produced upon digestion or skin. Thus butter, fish, oatmeal, buckwheat, etc., are popularly believed to give rise to eruptions, and are generally forbidden on this account during the course of acne and eczema. Even dermatologists of a certain school share in this belief, and instruct their patients liable to the latter that fish is never to be eaten by them. The proper way to substantiate such opinions or prejudices would be to show either that these affections are more frequent or severe among nations which make a very large or almost exclusive use of such articles of food, or that attacks of these diseases are directly induced or aggravated in individual cases by their consumption. Such demonstration has not been made, and I believe is impossible. In my own experience, founded upon the latter test, these substances are perfectly incapable of such influence upon the skin. I believe also that too much importance is attached to positive disturbances of digestion as a factor in cutaneous ætiology. With regard to the other disease above mentioned, for instance acne, we are told in several recent treatises and papers that the two conditions are not only well-nigh inseparable, but that the visible presence of the eruption is a necessary evidence of the existence of the indigestion, although every ordinary manifestation of the latter be wanting. Now I desire here to express my dissent, both from the facts as thus presented and such methods of reasoning from them. Acne between the ages of fourteen and twenty in both sexes is extremely common, and forms eighteen per cent. of all cases of cutaneous disease in my private practice. Indigestion, or dyspepsia, is a disorder certainly as common amongst us at all ages of life, but certainly not most so at this particular period. It is evident, then, that if it cause acne at this age chiefly and not at others, it is due to other agencies coöperative then and not at other times. We have therefore at the start to recog-

nize another element wholly apart from the digestive disturbance. But are there in fact any legitimate grounds for thus connecting the conditions as cause and effect? Does acne occur in any large percentage of persons, even at the most favorable age for its development, affected by any forms of indigestion? Do all acne patients, on the other hand, suffer from disturbances of the digestive functions? Enter any large general hospital, or consult the extensive records of its out-patient department, and note the vast numbers of patients afflicted with one or more of the varieties of indigestion, alone or in connection with other forms of disease, and how infrequently you will find acne amongst them. Yet *a priori* there is as much reason for attributing to the former all the manifold ills with which it is associated as the acne occasionally met with, namely, that of coincidence. Tested by the second and more direct inquiry, however, what positive evidence is gained? Do patients with acne suffer from indigestion in any marked degree or frequency, and, if coexistent, is the former affection due to the latter? I do not hesitate to answer both questions in the negative. I have made a careful and special examination of every patient with this disease seen by me in private and dispensary practice during the past two years with reference to this point. I find a very small percentage of them, chiefly among the latter, affected by some form of primary indigestion, and a larger proportion exhibiting more or less a habit of constipation; yet both faults occurring no more frequently than among an equal number of persons under the same condition of life unaffected by acne, certainly not oftener than in connection with other affections of the skin or the remaining organs of the body. I find, however, by far the larger portion of them, especially in private practice, perfectly healthy persons, as sound in every way, but for the local follicular inflammation, as humanity admits of, — that is, if we are to be permitted to gauge our judgment in this respect by the ordinary means of analysis. If, however, we are to be told that such methods of investigation are out of place in this question, and that the mere presence of acne efflorescence, *a priori* and of necessity, proves the contrary, I must confess myself incapable of meeting such arguments on their own ground.

Again, if we appeal to therapeutics, what answer do we obtain? Do we find in the majority of cases where the cutaneous and intestinal disorders do coexist that the relief of the latter is followed by the disappearance of the other? I have tested this thoroughly, I think, and am sustained more strongly in my position. I do not find that the coincidence of the two affections influences the probable course of the disease of the skin under treatment. I doubt if any member of this association feels warranted in offering a more positive or favorable prognosis because the alimentary symptoms are especially marked in any individual case over those cases in which they are absent or masked to ordinary means of recognition. Do we find obstinate, inveterate cases

of juvenile acne yielding to remedies addressed to faulty digestion? Are we not compelled to treat them, if indeed we are permitted, long beyond the period when they would have been dismissed, had we been consulted merely for the internal disturbance? I at least must acknowledge my inefficiency before the disease to this extent, and I never fail to treat this or any coexisting evil which may in any way obstruct its cure, even if in no way its cause. While denying, then, any important action in this respect to functional disturbances of digestion, which affect a great majority of mankind in some degree without producing such effects, and which, on the other hand, are absent in any appreciable measure throughout the clinical history of a majority of individual cases of acne, I must still confess a profound ignorance as to its ætiology.

Liver. It is somewhat remarkable, considering how prone mankind has been to regard its liver as the cause of much of its ill health, that it has had so small a share assigned it in the causation of cutaneous disease. There still lingers in the professional creed to a considerable extent the belief that it is responsible for the existence of tinea versicolor and some forms of chloasma. How such an error could have arisen it is impossible to understand, unless from poor guess-work and the ruling tendency among physicians to fall back upon the imagination rather than confess ignorance when questioned concerning the causes of disease, — a trait which has been a constant obstruction to progress in ætiology. The imagination may indeed be of vast service in science, bearing the mind involuntarily beyond the bounds of conscious action to meet great truths half-way, but only when previously trained to flight by constant exercise under the fundamental laws of true philosophy. Recently an unwarranted charge has been made against the liver in connection with xanthoma (xanthelasma, vitiligoidea), some of the English writers assigning to it an essential part in the development of this uncommon affection. This rôle, however, must be only a casual one, for in ten cases carefully examined by me with regard to such association there was not the slightest basis for such an opinion.

Kidneys. These organs, too, considering their important duties in the economy and their close supplementary relations with the skin, have preserved a marked exemption from accusations of contributing to the causes of its diseases. The relations of the urine to this question have already been sufficiently discussed elsewhere, as it is not claimed by those who urge their importance that they implicate the kidneys as distinct factors in any way, these organs merely eliminating for our examination the evidences of preëxisting disturbed relations between the skin and blood. That organic disease of the kidneys may exist for long periods, and be complicated by grave structural changes in several other important organs and leave the skin and its functions so free from disorder, illustrates in a striking manner what I have been insisting upon throughout this paper, — its marked independence in health and disease.

Reproductive Organs. There can be no doubt that the skin shares to some extent in the general excitement of the system dependent upon its ripening into puberty in both sexes, and sympathizes in a very slight degree with its disturbances at the climacteric age in women. The close relations of the integument to these organs in the lower animals especially is seen in the wonderful changes it exhibits during their periodic fluctuations of sexual activity. The astonishing coruscations of pigment and rapid tissue development manifested in its appendages, scales, feathers, hairs, and the like at such periods constantly excite our wonder. In the mammalia, even in the highest order below mankind, we find marked examples of similar fluctuations in the cutaneous structures during the rutting season. It is not strange, therefore, that during the rapid development of the follicular structures, the hair and odoriferous glands, in this awakening period of sexual power in our own youth, termed puberty, disorders should likewise frequently manifest themselves in the associate glands, varying in severity from simple oversecretion to destructive inflammation. From such normal relations it is fair, perhaps, to infer that unnatural and diseased excitements of the sexual system may give rise to similar disturbances in the cutaneous structures. The fact that acne most generally comes on at the beginning of puberty, and is most troublesome during the period of uncertain sexual relations between that and marriage; that it sometimes disappears on the restoration of irregular menstruation; that it has been observed apparently with unusual frequency in institutions devoted to celibacy and the worship of Vesta, while it is supposed to spare the inmates of those devoted to the purposes of a mercenary Venus; that eunuchs are reported as remarkably exempt, and that it is supposed to be a symptom of onanism, has led to a quite generally entertained opinion that it is in some way connected with, if not dependent upon, the functions of generation. It is an opinion, however, which is based on data peculiarly uncertain and liable to error, because beyond the sphere of accurate scientific investigation; and although there is undoubtedly some degree of truth in it, there are so many and so striking facts of rebutting character that it must not be received as founded upon definite and satisfactory evidence.

Thus I have endeavored to show some of the difficulties and errors which envelop the study of cutaneous aetiology: in part, prejudices born of ignorance, but of strange vitality, and transmitted with the authority of both popular and professional belief; in part, the direct result of hasty, short-sighted theorizing by those who occupy the position of teachers in our art. We shall make no real progress in this branch of dermatology until we sweep away all this rubbish of superstition, all these crude theories of schools and writers, and professing entire ignorance, if need be, build up a true aetiology by legitimate methods of truthful observation and sound reasoning.

